

Billing Code: 4520-43-P

DEPARTMENT OF LABOR

Mine Safety and Health Administration

Petitions for Modification of Application of Existing Mandatory Safety Standards

AGENCY: Mine Safety and Health Administration, Labor.

ACTION: Notice.

SUMMARY: This notice is a summary of 6 petitions for modification submitted to the Mine Safety and Health Administration (MSHA) by the parties listed below.

DATES: All comments on the petitions must be received by MSHA's Office of Standards, Regulations, and Variances on or before [INSERT DATE 30 DAYS FROM DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may submit your comments, identified by "docket number" on the subject line, by any of the following methods:

- 1. <u>Electronic Mail:</u> <u>zzMSHA-comments@dol.gov</u>. Include the docket number of the petition in the subject line of the message.
 - 2. Facsimile: 202-693-9441.
- 3. <u>Regular Mail or Hand Delivery</u>: MSHA, Office of Standards, Regulations, and Variances, 201 12th Street South, Suite 4E401, Arlington, Virginia 22202-5452,

Attention: Roslyn B. Fontaine, Deputy Director, Office of Standards, Regulations, and Variances. Persons delivering documents are required to check in at the receptionist's desk in

Suite 4E401. Individuals may inspect copies of the petition and comments during normal business hours at the address listed above.

MSHA will consider only comments postmarked by the U.S. Postal Service or proof of delivery from another delivery service such as UPS or Federal Express on or before the deadline for comments.

FOR FURTHER INFORMATION CONTACT: Aromie Noe, Office of Standards, Regulations, and Variances at 202-693-9557 (voice), Noe.Song-Ae.A@dol.gov (email), or 202-693-9441 (facsimile). [These are not toll-free numbers.]

SUPPLEMENTARY INFORMATION: Section 101(c) of the Federal Mine Safety and Health Act of 1977 and Title 30 of the Code of Federal Regulations Part 44 govern the application, processing, and disposition of petitions for modification.

I. Background

Section 101(c) of the Federal Mine Safety and Health Act of 1977 (Mine Act) allows the mine operator or representative of miners to file a petition to modify the application of any mandatory safety standard to a coal or other mine if the Secretary of Labor determines that:

- 1. An alternative method of achieving the result of such standard exists which will at all times guarantee no less than the same measure of protection afforded the miners of such mine by such standard; or
- 2. The application of such standard to such mine will result in a diminution of safety to the miners in such mine.

In addition, the regulations at 30 CFR 44.10 and 44.11 establish the requirements for filing petitions for modification.

II. Petitions for Modification

Docket Number: M-2020-008-C.

Petitioner: Century Mining LLC, 200 Chapel Brook Drive, Bridgeport, West Virginia 26330.

Mine: Longview Mine, MSHA I.D. No. 46-09447, located in Barbour County, West Virginia.

Regulation Affected: 30 CFR 75.500(d) (Permissible electric equipment).

<u>Modification Request</u>: The petitioner requests a modification of the existing standard to permit an alternative method of compliance to allow the use of battery-powered nonpermissible surveying equipment including total station surveying equipment, distance meters, theodolites, and data loggers, in or inby the last open crosscut.

The petitioner states that:

- (a) The Longview mine will utilize room and pillar and longwall coal mining methods.
- (b) Coal extraction will be at an average mining height of 6.5 feet; at the Longview Portal, the coal seam will be 880 feet below the surface. It will be ventilated by a 16-foot diameter intake air shaft and fan at the portal site. A 24-foot combination return and hoist divided shaft will be used for exhaust air and personnel access through a 5-ton rated hoist and cage.
- (c) Coal will be transported from the seam to the surface using a 72-inch mine conveyor.
- (d) To support mining operations, specifically for accurately locating entries, bore holes, gas wells, and other features, mine surveying will be used. Surveying technology such as total stations and theodolites have advanced greatly in recent years, allowing for increased accuracy and precision for calculating distances and angles. These new surveying systems are not currently MSHA-certified and do not meet the requirements of 30 CFR 75.500(d). For this equipment to be employed in the Longview mine, the mine operator has submitted this petition for modification of 30 CFR 75.500(d).

- (a) The operator proposes to use the following total stations and theodolites and similar low-voltage battery-operated total stations and theodolites if they have an ingress protection (IP) rating of 66 or greater in or inby the last open crosscut, subject to this petition:
 - (1) Sokkia Electronic Total Station Model SET 350RX-3
 - (2) Sokkia Electronic Total Station Model SET 350R
 - (3) Sokkia Electronic Total Station Model SETS 50 RX
 - (4) Sokkia Electronic Total Station Model SET-300
 - (5) Sokkia Compact X-ellence Station CX
 - (6) Sokkia Compact X-ellence Station CX-60
 - (7) Sokkia Intelligence Measurement Station iM-100
 - (8) Sokkia SHC250 Data Collector
 - (9) Topcon Electronic Total Station Model GTS-225
 - (10) Topcon Electronic Total Station Model GTS-300W
 - (11) Topcon Digital Theodolite Model DT-270L
 - (12) Topcon Digital Theodolite Model DT-209L
 - (13) Topcon Electronic Total Station Model GTS-301D
 - (14) Topcon Electronic Total Station Model GTS-235W
 - (15) Topcon Electronic Total Station Model GM-50
 - (16) Topcon Electronic Total Station Model GM-100
 - (17) Topcon FC-5000 Handheld Controller
 - (18) Topcon FC-500 Handheld Controller
- (b) The survey equipment will only be used if the equipment has an IP 66 rating or higher when available, if such a rating is not available then the highest IP rating available will be used.

 If the equipment contains lithium batteries, they will meet the lithium battery safety standard UL 1642 or IEC 62133.
- (c) A record of the equipment will be kept on mine property in either a secure book or electronically in a secure computer where the records will not be alterable. The record will contain: the date of manufacture and/or the purchase information of each piece of survey equipment; proof of compliance with lithium battery standards; the original equipment manufacturers' user and maintenance manuals. These records will be available to the Authorized Representatives of the Secretary and miners at the mine.

- (d) Survey equipment will be examined by a qualified person, as in 30 CFR 75.153, before the equipment is taken underground to ensure safe operating conditions. The minimum requirements of the examination by a qualified person are the following:
 - (1) Check the equipment for physical damage and the integrity of the case;
 - (2) Remove the battery and check for corrosion, if removable;
 - (3) Inspect the contact points to ensure a secure connection to the battery, if removable;
 - (4) Reinsert the battery, power up and shut down to ensure proper connections, if accessible;
- (5) Check the battery compartment cover or battery attachment to ensure that it is securely fastened; and
- (6) For equipment utilizing lithium cells, the cells will be inspected to ensure they are not damaged or swelled in size.
 - (7) The results of the examinations will be recorded.
- (e) A qualified person, as in 30 CFR 75.512-2, will examine the equipment weekly and record the results. Records will be expunged after one year.
- (f) The equipment will be serviced per the manufacturers' recommendation, dates of service and a description of the work performed will be recorded.
- (g) Surveying equipment will not be used if methane is detected in concentrations at or above 1.0 percent. When 1.0 percent or more methane is detected while such equipment is being used, the equipment will be de-energized immediately and withdrawn outby the last open crosscut. Batteries will not be removed to de-energize equipment due to the possibility of accidental short-circuiting. All requirements of 30 CFR 75.323 will be complied with prior to entering in or inby the last open crosscut.

- (h) A qualified person, as in 30 CFR 75.100, will conduct a visual examination of the location that the survey equipment will be used in before the equipment is taken into or energized in that area. The visual examination will include: evidence that the area is properly rock dusted and whether there is an accumulation of combustible material (such as float coal dust). If float coal dust is observed in suspension then the equipment cannot be energized until sufficient rock dusting has been applied and/or the combustible material has been cleaned up or removed.
- (i) A methane test will be made at least 12 inches from the roof, face, ribs, and floor (as set out by 30 CFR 75.323) before energizing equipment in the subject area.
- (j) Hand-held methane detectors will be MSHA-approved as set forth by 30 CFR 75.320. Measurement devices will be calibrated or bump tested before each shift to ensure that they function properly. Methane detectors will provide visual and audible warnings when methane is detected above 1.0 percent.
- (k) As required by 30 CFR 75.360, the subject area must be pre-shift examined before using surveying equipment. If not examined pre-shift, a supplemental examination will be conducted (as in 30 CFR 75.361) before a noncertified person enters the subject area.
- (l) A qualified person must confirm, either by measurement or inquiry of the certified person in charge of the section, that the air quantity meets the minimum quantity required by the mine's approved ventilation plan.
- (m) Methane will be continuously monitored before and during the use of equipment in the subject area by a qualified person.
- (n) Batteries must be "changed out" in the intake area and no work will be performed on the equipment listed in the petition while in the subject area. Replacement batteries will not be

brought into the subject area; all batteries for equipment listed will be charged and protected (using equipment carrying cases or in the equipment) during each entry into the mine.

- (o) The following maintenance and use conditions are required for lithium batteries:
- (1) The battery pack will not be disassembled or modified by anyone other than permitted by the manufacturer of the equipment.
- (2) The battery pack will only be charged using the original equipment manufacturer's recommended charger.
- (3) The battery will not be exposed to water or allowed to get wet; not precluding incidental exposure of sealed battery packs.
 - (4) The battery will not be placed in direct sunlight or used or stored near a source of heat.
- (5) The battery will not be used at the end of its life cycle (when there is a performance decrease of greater than 20% in battery operated equipment).
 - (6) The battery will be properly disposed of.
- (p) Personnel using the equipment will be qualified, as in 30 CFR 75.153, and trained according to the manufacturer's recommended safe use procedures, including recognizing hazards associated with using equipment where methane could be present.
- (q) The above non-permissible survey equipment will be used when production is occurring, if the following conditions are met:
- (1) On a mechanized mining unit (MMU) where production is occurring, nonpermissible electronic surveying equipment will not be used downwind of the discharge point of any face ventilation controls, such as tubing (including controls such as "baloney skins") or curtains.
 - (2) Production will continue while nonpermissible electronic surveying equipment is

used, if such equipment is used in a separate split of air from where production is occurring, or the surveying equipment is upwind of the production equipment.

- (3) Nonpermissible electronic surveying equipment will not be used in a split of air ventilating an MMU if any ventilation controls will be disrupted during such surveying.

 Disruption of ventilation controls means any change to the mine's ventilation system that causes the ventilation system not to function in accordance with the mine's approved ventilation plan.
- (4) If, while surveying, a surveyor must disrupt ventilation, the surveyor will cease surveying and communicate to the section foreman that ventilation must be disrupted. Production will stop while ventilation is disrupted. Ventilation controls will be reestablished immediately after the disruption is no longer necessary. Production will only resume after all ventilation controls are reestablished and are in compliance with approved ventilation or other plans, and other applicable laws, standards, or regulations.
- (5) All surveyors, section foremen, section crew members, and other personnel who will be involved with or affected by surveying operations will receive training in accordance with 30 CFR 48.7 on the requirements of the petition. The training will be completed before any nonpermissible electronic surveying equipment can be used while production is occurring. The operator will keep a record of the training and provide the record to MSHA on request.
- (6) The operator will provide annual retraining to all personnel who will be involved with or affected by surveying operations in accordance with 30 CFR 48.8. The operator will train new miners on the requirements of the petition in accordance with 30 CFR 48.5, and will train experienced miners, as defined in 30 CFR 48.6, on the requirements of the petition in accordance with 30 CFR 48.6. The operator will keep a record of the training and provide the record to MSHA personnel on request.

(r) The petitioner asserts that the proposed alternative method will at all times guarantee no less than the same measure of protection afforded by the existing standard.

Docket Number: M-2020-009-C.

Petitioner: Century Mining LLC, 200 Chapel Brook Drive, Bridgeport, West Virginia 26330.

Mine: Longview Mine, MSHA I.D. No. 46-09447, located in Barbour County, West Virginia.

Regulation Affected: 30 CFR 75.500(d) (Permissible electric equipment).

<u>Modification Request</u>: The petitioner requests a modification of the existing standard to permit the use of nonpermissible electronic testing and diagnostic equipment, in or inby the last open crosscut.

The petitioner states that:

- (a) The Longview mine will utilize room and pillar and longwall coal mining methods.
- (b) Coal extraction will be at an average mining height of 6.5 feet; at the Longview Portal, the coal seam will be 880 feet below the surface. It will be ventilated by a 16-foot diameter intake air shaft and fan at the portal site. A 24-foot combination return and hoist shaft will be used for exhaust air and personnel access through a 5-ton rated hoist and cage.
- (c) Coal will be transported from the seam to the top of the slope using a 72-inch mine conveyor.
- (d) To support mining, electrical testing and diagnostic equipment is necessary. Modern mining equipment includes programmable logic controllers which use digital signals from machine sensors to govern machine systems. To troubleshoot such modern systems, as required by 30 CFR 75.503, certain electronic tools are needed such as electronic tachometers. This electronic equipment includes: laptop computers to communicate with machine control systems;

vibration, temperature, and electronic tachometers to support preventative and predictive maintenance to identify hazards; cable fault detectors and insulation testers (meggers), which identify and locate insulation failures in trailing cables, electric motors, and control cables with power removed; oscilloscopes to view machine control and communication signals for proper wave forms frequency and amplitude, removing improper control signals that can create hazards to mine personnel; voltage, current, resistance, and power test meters for troubleshooting that mining machines and systems are properly functioning. These electronic systems are not currently MSHA-certified and do not meet the requirements of 30 CFR 75.500(d). For this equipment to be employed in the Longview mine, the mine operator has submitted this petition for modification of 30 CFR 75.500(d).

- (a) The petitioner proposes using the following testing and diagnostic equipment inby the last open crosscut: laptop computers, oscilloscopes, vibration analysis machines, cable fault detectors, point temperature probes, infrared temperature devices, insulation testers (meggers), voltage, current, resistance meters, power testers, and electronic tachometers. Other testing and diagnostic equipment would also be used if approved in advance by MSHA's District Manager. The petitioner will use more than one piece of testing equipment at the same time.
- (b) The petition excludes MSHA's already approved list of permissible electronic testing and diagnostic equipment.
- (c) The testing or diagnostic equipment will only be used:
- (1) Until equal MSHA-approved permissible electronic testing and diagnostic equipment is available.

- (2) When commercially available, the operator must use equipment that meets IEC 60079-11 or the ANSI/UL 60079-11 for two-fault IS (marked ia), one-fault IS (marked ib), or no-fault IS (marked ic) in that order of preference. The equipment must have an IP 66 rating or higher when available; if IP 66 is not available, the highest available IP rating available will be used.
- (3) If any of the equipment uses lithium batteries, they must meet lithium battery safety standards UL1642, IEC 62133, or current equal standards.
- (d) A record of the equipment will be kept on mine property in either a secure book or electronically in a secure computer where the records will not be alterable. The record will contain: the date of manufacture and/or the purchase information of each piece of equipment; proof of compliance with lithium battery standards; the original equipment manufacturers' user and maintenance manuals. These records will be available to the Authorized Representatives of the Secretary and miners at the mine.
- (e) Testing or diagnostic equipment will be examined by a qualified person, as in 30 CFR 75.153, before the equipment is taken underground to ensure safe operating conditions. The minimum requirements of the examination by a qualified person are the following:
 - (1) Check the instrument for physical damage and the integrity of the case;
- (2) Check that the battery compartment cover or attachment is securely fastened if equipped; and
- (3) For equipment utilizing lithium cells, the cells will be inspected to ensure they are not damaged or swelled in size.
 - (4) The results of the examinations will be recorded.

- (f) A qualified person, as in 30 CFR 75.512-2, will examine the equipment weekly and record the results. Records will be expunged after one year.
- (g) The equipment will be serviced per the manufacturers' recommendation, dates of service and a description of the work performed will be recorded.
- (h) Equipment will not be used if methane is detected in concentrations at or above 1.0 percent. When 1.0 percent or more methane is detected while such equipment is being used, the equipment will be de-energized immediately and withdrawn outby the last open crosscut.

 Batteries will not be removed to de-energize equipment due to the possibility of accidental short-circuiting. All requirements of 30 CFR 75.323 will be complied with prior to entering in or inby the last open crosscut.
- (i) A qualified person, as in 30 CFR 75.100, will conduct a visual examination of the location that the testing equipment will be used in before the equipment is taken into or energized in that area. The visual examination will include: evidence that the area is properly rock dusted and whether there is an accumulation of combustible material (such as float coal dust). If float coal dust is observed in suspension then the equipment will not be energized until sufficient rock dusting has been applied and/or the combustible material has been cleaned up or removed.
- (j) All hand-held methane detectors will be MSHA-approved as set forth by 30 CFR 75.320. Measurement devices will be calibrated or bump tested before each shift to ensure that they function properly. Methane detectors will provide visual and audible warnings when methane is detected above 1.0 percent.
- (k) Methane tests will be made at least 12 inches from the roof, face, ribs and floor, as in 30 CFR 75.323(a), before energizing equipment in the subject area.

- (1) As required by 30 CFR 75.360, the subject area will be pre-shift examined before using equipment. If not examined pre-shift, a supplemental examination will be conducted (as in 30 CFR 75.361) before a noncertified person enters the subject area.
- (m) A qualified person will confirm, either by measurement or inquiry of the certified person in charge of the section, that the air quantity for that shift meets the minimum quantity required by the mine's approved ventilation plan before using any testing or diagnostic equipment.
- (n) A qualified person will continuously monitor methane immediately before and during use of testing and diagnostic equipment in the area. Monitoring will be conducted using a hand-held methane detector, positioned in locations with the best possibility of detecting hazardous gas in the area where equipment is being used; a qualified person will be with the equipment while it is in use.
- (o) Batteries must be "changed out" in intake area and no work will be conducted on the equipment while in the subject area. Replacement batteries will not be brought into the subject area; all batteries for equipment listed will be charged and protected (using equipment carrying cases or in the equipment) each entry into the mine.
- (p) The following maintenance and use conditions will apply to lithium batteries:
- (1) The battery pack will not be disassembled or modified by anyone other than permitted by the manufacturer of the equipment.
- (2) The battery pack will only be charged using the original equipment manufacturer's recommended charger.
- (3) The battery will not be exposed to water or allowed to get wet; not precluding incidental exposure of sealed battery packs.

- (4) The battery will not be placed in direct sunlight or used or stored near a source of heat.
- (5) The battery will not be used at the end of its life cycle (when there is a performance decrease of greater than 20% in battery operated equipment).
 - (6) The battery will be properly disposed.
- (q) Personnel using the equipment will be qualified, as in 30 CFR 75.153, and trained according to the manufacturer's recommended safe use procedures, including recognizing hazards associated with using equipment where methane could be present.
- (r) All qualified persons and miners affected by this petition will receive specific training on the conditions of this petition before using testing and diagnostic equipment in the subject area. A record of training will be: maintained, provided upon request by an Authorized Representative of the Secretary, documented on a MSHA Certificate of Training form (form 5000-23); a notation will be included on the certificate of training to indicate that it was for non-permissible testing equipment.
- (s) Testing or diagnostic equipment will not be used when coal production is occurring on the MMU and all mining on the MMU will stop before use of testing or diagnostic equipment in the subject area. If troubleshooting or testing without power, the petitioner will de-energize, lock, and tag-out the circuit on the equipment. Personal protective equipment (like electrically rated gloves), will be worn when troubleshooting or testing energized low and medium voltage circuits. Once the issue is determined, before performing electrical work, petitioners will open the circuit breaker, disconnect, and lock-out and tag-out the visual disconnect device. High voltage circuits will be grounded before conducting repairs.

(t) The petitioner asserts that the proposed alternative method will at all times guarantee no less than the same measure of protection afforded by the existing standard.

Docket Number: M-2020-010-C.

Petitioner: Century Mining LLC, 200 Chapel Brook Drive, Bridgeport, West Virginia 26330.

Mine: Longview Mine, MSHA I.D. No. 46-09447, located in Barbour County, West Virginia.

Regulation Affected: 30 CFR 75.1700 (Oil and gas wells).

Modification Request: The petitioner requests a modification of the existing standard, 30 CFR 75.1700, as it relates to vertical oil and gas wells at the Longview mine. The operator is petitioning in order to mine through existing wells as they are met.

The petitioner states that:

- (a) The Longview mine will utilize room and pillar and longwall coal mining methods.
- (b) Coal extraction will be at an average mining height of 6.5 feet; at the Longview Portal, the coal seam will be 880 feet below the surface. It will be ventilated by a 16-foot diameter intake air shaft and fan at the portal site. A 24-foot combination return and hoist divided shaft will be used for exhaust air and personnel access through a 5-ton rated hoist and cage.
- (c) Coal will be transported from the seam to the surface using a 72-inch mine conveyor.
- (d) In order to efficiently develop and mine the reserve, the petitioner is planning to mine through conventional vertical and coal bed methane (CBM) wells, instead of utilizing the 300' barrier that is required by 30 CFR 75.1700, by cleaning out, preparing, plugging, and/or replugging each well and follow safety precautions as outlined below. CBM wells are drilled from the surface to develop horizontal branches within the coal seam; multiple branches can be

developed from a single well and multiple seams from a single well. The proprietary drilling process is generically known as surface directional drilled (SDD) wells.

(e) In the Longview mine, there are approximately 194 conventional or CBM wells. 116 are active, 19 are abandoned, and 59 are plugged. There are 4 CBM wells, 5 horizontal wells, and 185 vertical wells restricting Longview mining operations. The petitioner proposes to address potential hazards to miners, presented by CBM wells, through plugging procedures, water infusion, ventilation methods, and other safety precautions.

- (a) The following are proposed for safety barriers:
- (1) A safety barrier will be constructed and maintained around each conventional vertical oil and gas wells (active, inactive, abandoned, shut-in, and previously plugged wells, including water injections wells) until mining is allowed to continue by the district manager. The safety barrier will be 300 feet in diameter and 150 feet between a mined area and conventional vertical well. The petitioner will request a permit to lower the 300-foot safety barrier if the operator's planned mining operations will not intersect a well but will mine within the 300-foot barrier.
- (2) There is a probability of error of location due to estimated location systems, which depending on the equipment and techniques are accurate to within one or two degrees. Probability of error is dependent on a cone described by the accuracy of angular measurements around the hole. Other errors include: underground survey errors, surface survey errors, and random survey errors.

- (3) The minimum working barrier surrounding a coalbed methane well or any branches of a coalbed methane well will be 50 feet plus the probable error of location. 50 feet is considered by the petitioner to be a reasonable distance between the well and mining operations.
- (4) The petitioner will provide the district manager with a sworn affidavit or declaration by a company official (accompanied by logs and records requested) that procedures for cleaning out, preparing, and plugging oil or gas wells have been done according to the terms and condition of this petition, before mining within the safety barrier around the well.
- (b) Proposed procedures for cleaning out, preparing, plugging, and replugging oil or gas wells:
- (1) For preparing conventional vertical oil and gas wells before plugging or replugging:
- (i) The petitioner will completely clean out the well from the surface to at least 200 feet below the base of the lowest mineable coal seam, removing material from the well (wall to wall).
- (ii) Down-hole logs will be prepared for each well consisting of caliper survey logs suitable for determining the top, bottom, and thickness of all coal seams and potential hydrocarbon producing strata and the location for the bridge plug. A journal will be kept describing the depth and nature of materials encountered, the bit size and type used to drill each portion of the hole; the length and type of material for plugging the well, the length of casing removed, perforated or ripped or left in place, any sections where casing was cut or milled, or any other information for cleaning and sealing the well. Invoices, work-orders, and other related records will be maintained and available to MSHA at request.

- the casing in the well, but if it is not possible then the petitioner will make sure that the annulus between the casing and well walls are filled with expanding cement (at a minimum 0.5% expansion upon setting) with no voids. If the casing cannot be removed, it will be cut or milled at all mineable coal seam levels. Remaining casing will be perforated or ripped every 50 feet from 200 feet below the base of the lowest mineable coal seam and up to 100 feet above the uppermost part of the mineable coal seam. If the petitioner, using a casing bond, can demonstrate the annuli in the wells are adequately sealed with cement, the petitioner will not perforate or rip casing for that well. If there are multiple casing and tubing strings present in the coal horizon(s), remaining casing can be ripped or perforated and filled with expanding cement, as directed above. An acceptable casing bond log for each casing and tubing string will be provided if used instead of ripping or perforating multiple strings.
- (iv) If the cleaned-out well is emitting excessive gas, a mechanical bridge plug will be placed in the well in a competent stratum at least 200 feet below the base of the lowest mineable coal seam, but above the top of the uppermost hydrocarbon-producing stratum. If this is not possible, a properly sized packer will be used.
- (v) If the uppermost hydrocarbon-producing stratum is within 300 feet of the base of the lowest minable coal seam, the properly placed mechanical bridge plugs, described in subparagraph (b)(1)(iv) above, will be used to isolate the hydrocarbon-producing stratum from the expanding cement plug. Nonetheless, a minimum of 200 feet of expanding cement will be placed below the lowest mineable coal seam.
 - (2) For plugging or replugging conventional vertical oil or gas wells to the surface:

A cement plug will be set by pumping an expanding cement slurry down the well from at least 200 feet below the base of the lowest mineable coal seam under 200 pounds per square inch of pressure, using Portland cement or another lightweight cement to fill from 100 feet above the top of the uppermost mineable coal seam to the surface; steel turnings or small magnetic particles will be embedded in the top of the cement near the surface as a permanent magnetic monument of the well, or alternatively, a 4.5 inch or larger casing set in cement will be extended 36 inches above ground level with the API well number engraved or welded on the casing (if not marked physically, high-resolution GPS coordinates will be provided).

- (3) For plugging or replugging conventional vertical oil and gas wells for use as degasification boreholes:
- (i) A cement plug will be set in the well by pumping an expanding cement slurry down the tubing to provide at least 200 feet of expanding cement below the lowest mineable coal seam under 200 pounds per square inch of pressure. The top of the expanding cement will extend above the coal seam being mined by at least 30 feet.
- (ii) The bedrock will be grouted into the upper part of the degasification well to protect it and the remainder will be cased or uncased.
- (iii) The top of the degasification casing will be fitted with a wellhead. Such equipment will include check valves, shut-in valves, sampling ports, flame arrestor equipment, and security fencing.
- (iv) The ventilation plan will address the operation of the degasification well, including periodic methane tests and limits on the extraction of methane concentrations.
- (v) After the part of the coal mine that has been degassed by a well is sealed or if the coal mine is abandoned, degassed holes will be sealed by: inserting a tube to the bottom

of the hole (if not possible then not greater than 100 feet above the mined seam) and removing any blockage. A cement plug will be set in the well by pumping Portland cement or another lightweight cement mixture down the tubing until the well is filled to the surface; steel turnings or small magnetic particles will be embedded in the top of the cement near the surface to serve as a permanent magnetic monument for the well, alternatively a 4.5 inch or larger casing, set in cement, will be extended 36 inches above ground level with the API well number engraved or welded on the casing (if not marked physically, a high-resolution GPS coordinates will be provided).

- (4) An alternative to preparing and plugging or replugging conventional vertical oil or gas wells:
- (i) The below provisions apply to wells that cannot be cleaned out because of damage, caused by subsidence, caving, or other factors.
- (ii) A hole will be drilled adjacent and parallel to the well to a depth of at least 200 feet below the lowest mineable coal seam.
- (iii) A geophysical sensing device will be used to locate casings remaining in the well.
- (iv) If there are casing(s) present in the well, the petitioner will access the well from a parallel hole, the petitioner will perforate or rip all casings at intervals of at least 5 feet, from 10 feet below the coal seam to 10 feet above the coal seam. After that, the petitioner will perforate or rip at least every 50 feet from 200 feet below the base of the lowest mineable coal seam up to 100 feet above the seam mined. The annulus between casings and the well wall will be filled with expanding cement (at a minimum 0.5% expansion upon setting), with no voids. If the petitioner, using a casing bond, can demonstrate that the annulus of the well is adequately

sealed with cement, the petitioner will not perforate or rip casing for that well. When there are multiple casings and tubing strings in the coal horizon, remaining casing will be ripped or perforated and filled with expanding cement. A casing bond log for casing and tubing string will be used instead of ripping or perforating multiple strings.

- (v) If there is not enough casing in the well, a horizontal hydraulic fracturing technique can be used to intercept the original well. The petitioner will fracture at least six places at intervals agreed on with the district manager after taking into account geological strata and well pressure. These fractures will be from at least 200 feet below the base of the lowest mineable coal seam to at least 50 feet above the seam mined. Expanding cement will be pumped into the fractured well to intercept voids.
- (vi) Down-hole logs will be prepared for each well consisting of a caliper survey and log(s) suitable for determining the top, bottom, and thickness of coal seams and the potential hydrocarbon-producing strata and the location for the bridge plug. Logs can be obtained from an adjacent hole if the conditions of the well makes it impractical to insert the equipment necessary to obtain the log. Down hole camera surveys will be used instead of down-hole logs if the logs are not suitable for obtaining the data or are impractical to obtain, due to the condition of the drill hole. A journal will be kept describing the depth and nature of materials encountered, the bit size and type used to drill each portion of the hole, the length and type of materials for plugging the well, the length of casing removed, perforated, ripped, or left in place, and other information concerning sealing the well. Invoices, work-orders, and other related records will be maintained and available to MSHA at request.
- (vii) Once the well has been plugged, the petitioner will use Portland cement or another lightweight cement mixture to plug open portions of both holes from the bottom to the

surface. The petitioner will embed steel turnings or small magnetic particles in the top of the cement near the top of the surface as a permanent magnetic monument of the well, alternatively a 4.5 inch or larger casing, set in cement, will be extended 36 inches above ground level with the API well number engraved or welded on the casing.

- (5) The petitioner proposes the following procedures for plugging or replugging SDD wells:
- (i) Approved methods will be completed on each SDD well before mining near the minimum working barrier around the well; if methane leakage is an issue during retreat mining, the minimum working barrier must be maintained around wells for a safe intersection.
- (ii) Cement plugs will be used to fill the SDD hole system using squeeze cementing due to the lack of tubing. Cement will be used to eliminate methane leakage. After the cement has cured, the SDD system will be intersected multiple times without additional hole preparation. Gas cutting will occur if the cement placement pressure is less than the methane pressure. If done, gas will bubble out of the seam into the unset cement creating pressurized voids or interconnected pressurized voids. Water cutting occurs when water in the hole enters unset cement. Standing water will be bailed out of the hole or driven into the formation with compressed gas to lessen water cutting. Cement pressure must be kept higher than the formation pressure until its sets to avoid water and gas cutting. Because of the amount of cement and potential problems, pumping units with back-up capacity will be used. Additives such as retarders, lightweight extenders, viscosity modifiers, thixotropic modifiers, and fly ash will be added to the cement mix. The volume of the cement pumped will exceed the hole volume to fill voids. Safety Data Sheets for all materials, cements, additives, components of protective equipment, and techniques protecting workers from potential harm from cement (along with

cement components) will be kept in records at the mine office along with records of the mixes, materials, pressures, flow rates and times for each plugged hole.

- (iii) SDD holes plugged before mining will have appropriate documentation of the cement plugging.
- (iv) Polymer gels will be pumped into the SDD system; they start as low viscosity, water-based mixtures of organic polymers that are crosslinked using time-delayed activators to create water-insoluble, high viscosity gel after being pumped into the SDD system. Although polymer gel never solidify, the activated gel should develop sufficient strength to resist gas flow. Such gel suitable for treating SDD wells for mine intersection will reliably fill the SDD system and prevent gas-filled voids.
- (v) These gels will be resistant to bacteria and chemical degradation and will stay stable throughout the mining of an SDD system. The following are considerations for polymer gels: (1) Water can dilute the gel, making it unable to set to the applicable strength.

 Water will be removed from holes before gel is injected, which will be accomplished through bailing and injecting compressed gas to push water that is in low spots into formation. This process of gas pressurization will continue until the hole is dry. Dissolved salts in the formation waters can also pose a potential problem because they can interfere with the cross-linking reactions using gels. (2) The equipment to mix and pump gels will be able to fill the hole before the gel sets and backup units will be on hand in case issues arise. The volume of gel pumped will exceed estimated hole volume to make sure voids are filled and for gel to infiltrate joints surrounding the hole. To reduce the potential for inundation of gel, the level will be close to the level of the coal seam and the rest of the hole will be open to atmosphere until mining in the SDD system vicinity is completed. To isolate portions of the SDD system, packers will be used.

- (3) Safety Data Sheets will be maintained in the mine office for all gel components, and any protective equipment, and techniques used to protect miners from harmful effects of the gel (or gel components). A record of hole volume, gel quantities, gel formation, pump pressures, and flow rates and times will also be kept for holes treated with gel.
- (vi) Bentonite gel will be injected into the SDD system to infiltrate the cleat and butt joints of the coal seam near the well bore to seal conduits against the flow of methane by filling and sealing the borehole. Bentonite gel is a thixotropic fluid that sets when it stops moving. Bentonite gel has a significantly lower viscosity than polymer gel. While the gels seal the borehole, lower strength bentonite gel will penetrate fractures and jointing in the coal seem to be effective. Bentonite gel will only be used for depleted CBM applications with low abandonment pressure and a limited recharge potential. The following are procedures for using this gel: (1) a slug of water is injected before using bentonite gel to lessen moisture-loss, the volume of gel injected should exceed the estimated hole volume to make sure that the gel accesses the joints in the coal seam around the hole. Additives will be needed to change viscosity, lessen filtrates, reduce surface tension, and increase sealing of cracks and joints. The level of the gel should approximate the elevation of the coal seam and the rest of the hole should be open to atmosphere. (2) If a water column is used to pressure gel, it will be taken out to the coal seam elevation before intersection occurs. (3) The Safety Data Sheets for all gel or protective equipment and techniques to protect workers from the potentially harmful effects of the gel and additives must be maintained at the office. A record of the hole preparation, gel quantities, gel formulation, pump pressures, and flow rates will be kept for each hole that is treated by bentonite gel.
 - (vii) To facilitate the safe intersection of a hole near a coal mine, the technique

of reducing pressure to less than atmospheric pressure (using a vacuum blower connected to the wellhead) will be used. Negative pressure in the hole limits the amount of methane released into higher-pressure mine atmosphere. If the intersection is near the end of the horizontal branch of the SDD system, air will go into the upstream side of the hole and be reduced through a surface blower. On the downstream side of the intersection, if the hole length is short, ventilation will dilute methane to safe levels. Intersection near the bottom of the vertical hole will not be possible because of the difficulty of diluting methane released. The rate of methane emissions is directly related to the length of the open hole. Vacuum systems will be limited due to caving or water collected in the SDD system. The methane liberation rate of coal formation around the well is an important factor for the success of vacuum systems. This technique is more likely to be successful in more depleted wells with lower methane emissions.

- (viii) To reduce methane inflow after intersection, packers will be used. All packers on the downstream side must have a center pipe to inject water and measure methane pressure, subsequent intersections will not be completed if pressure in a packer-sealed hole is too high. Alternatively, methane from the downstream hole can be piped to an in-mine degas system to safely transport methane away from the mine or to pipe to the return air course for dilution. In-mine methane piping should be protected, as required by "Piping Methane in Underground Coal Mines" (MSHA IR 1094, 1978). Protected methane diffusion zones will be established in return air courses, if needed.
- (ix) Water infusion prior to intersecting the well will temporarily limit methane flow. Water infusion will also help control coal dust levels during mining. High water infusion pressures will be obtained prior to the initial intersection by the hydraulic head resulting from the hole depth or by pumping.

- (x) Water infusion pressure is limited by leakage around in-mine packers and issues with the water distribution system; the water level in the hole should be lowered to that of the coal seam elevation if infusing before the initial intersection.
- (xi) Negative pressures applied to the system, methane release, use of packers, and any water infusion pressures and application time will all be recorded and kept for each intersection.
- (xii) If there are issues during a safe intersection, then remedial actions will be taken to counteract those issues.
- (xiii) If problems are encountered in preparing the holes for safe intersection, then remedial measures must be taken to protect the miners. For example: if only one-half of the calculated volume of cement could be placed into a SDD well due to hole blockage, holes should be drilled near each branch that will be intersected and squeeze cemented using pressures sufficient to fracture into the potentially empty SDD holes.
- (c) The following are proposed methods for mining within the safety barrier, or mining through a plugged or replugged well:
- (1) At least 48 hours before the intended intersection of any well or the initial intersection of any branch of an SDD well, the petitioner will notify the District Manager, the State, and the miner's representative.
- (2) No person will be permitted in the area of the mining-through operation except those actually engaged in the operation, company personnel, representatives of the miners, personnel from MSHA, and personnel from the appropriate State agency.
- (3) Before the planned intersection, the petitioner will alert all personnel in the mine, to be repeated for all shifts until the well is mined through.

- (4) The mine-through operation will be under the direct supervision of a certified individual. Instructions concerning the mine-through operation will be issued only by the certified individual in charge.
- (5) The first intersection of a well or branch of a well is a higher risk then ensuing intersections because it is the point where well or branch preparation is enough to prevent the release of methane into the mine. The following procedures will be required for the first intersection encountered:
- (i) When using continuous mining methods, the petitioner will install drivage sights at the last open crosscut near the place to be mined to ensure intersection of the well. The drivage sites will not be more than 50 feet from the well. When using longwall-mining methods, drivage sights will be installed on 10-foot centers for a distance of 50 feet in advance of the well. Sights will be installed in both the headgate and tailgate.
- (ii) Firefighting equipment will be available and usable in the mining site, including fire extinguishers, rock dust, and a fire hose that can reach the working face area of the mining-through will be available when either the conventional or continuous mining method is used.. The fire hose will be located in the last open crosscut of the entry or room. The petitioner will maintain the water line to the belt conveyor tailpiece as well as a hose long enough to reach the furthest point of penetration on the section. For longwall mining, a hose to the longwall water supply is enough. All fire hoses will be ready for operation during the mining-through.
- (iii) Sufficient supplies of roof support and ventilation materials will be available and located at the last open crosscut. In addition, an emergency plug and suitable sealing materials will be available in the immediate area of the well intersection.
- (iv) All equipment will be checked for permissibility and serviced on the shift prior to mining-through the well.

- (v) The methane monitor on the continuous mining machine, or cutting machine and loading machine, will be calibrated on the shift prior to mining-through the well.
- (vi) When mining is in progress, tests for methane will be made with a handheld methane detector at least every 10 minutes from the time that mining with the continuous
 mining machine is within 30 feet of the well until the well is intersected and immediately prior to
 mining through. During the actual cutting through process, no individual will be allowed on the
 return side until mining-through has been completed and the area has been examined and
 declared safe. All workplace exams will be completed on the return side of the shearer while the
 shearer is idle.
- (vii) When using continuous or conventional mining methods, the working place will be free from accumulations of coal dust and coal spillages, and rock dust will be placed on the roof, rib and floor within 20 feet of the face when mining through or near the well on the shift or shifts during which the cut-through will occur. For longwell sections, rock dusting will be conducted and placed on the roof, rib, and floor up to the headgate and tailgate gob.
- (viii) When the wellbore is intersected, all equipment will be deenergized and the place thoroughly examined and determined safe before mining is resumed. After a well has been intersected and the working place determined safe, mining will continue inby the well a sufficient distance to permit adequate ventilation around the area of the well.
- (ix) The use of torches will not be necessary if the casing is cut or milled at the seam level, but in rare circumstance, torches will be utilized for improperly cut or milled casings. An open flame will not be allowed in the area until methane levels are less than 1.0% (in the area exposed to torch flames and sparks) and adequate ventilation is established in the area around the

well bore. A thick layer of rock dust will be applied by the petitioner to the roof, face, floor, ribs and any other exposed coal inside of 20 feet of the casing before using torches.

- (x) Non-sparking (brass) tools will be located at and used on the working section so as to expose and examine cased wells.
- (5) The borehole location will be identified when the initial intersection with the well or branch is made. The borehole location will be identified as the wellbore plot adjusted to reduce the established safety zone of 20 feet for ensuing lateral intercepts. At each new intersection of a branch of the well, the same process will take place except for the reduction of the safety zone.
- (6) Upon encountering a void at the mine through (i.e., the presence of backfill material is not detected), if the methane reading is below 1%, then the mining will continue, but if it is greater than 1%, mining will halt. A mechanical air packer will be installed in the rib near the wellhead to correct the situation, the packer will be sealed so that leakage does not occur. If this does not address the issue, an alternative approach will be approved.
- (7) Upon encountering a void at the initial mine through (i.e., presence of backfill material not detected), after finishing mining in that block, a mechanical or air packer will be installed on the inby side of the mined through hole (the first intercept). The void will be sealed at the opening using water infusion or grout, before the second intercept and expected mine through. These procedures will be repeated when new hole intercepts are encountered and where expected mine through situations are met for voids.
- (d) The petitioner asserts that the proposed alternative method will at all times guarantee no less than the same measure of protection afforded by the existing standard.

Docket Number: M-2020-011-C.

Petitioner: Jarisa, Inc., 935 State Hwy 317, Neon, KY 41840.

Mine: E4-1 Mine, MSHA I.D. No. 15-18565, located in Perry County, Kentucky.

Regulation Affected: 30 CFR 75.500(d) (Permissible electric equipment).

Modification Request: The petitioner requests a modification of the existing standard to permit an alternative method of compliance to allow the use of battery-powered nonpermissible surveying equipment including, but not limited to, portable battery-operated mine transits, total station surveying equipment, distance meters, and data loggers, in or inby the last open crosscut.

The petitioner states that:

- (a) To comply with requirements for mine ventilation maps and mine maps in 30 CFR 75.372 and 75.1200, use of the most practical and accurate surveying equipment is necessary.
- (b) The petitioner utilizes the continuous mining method.
- (c) Accurate survey equipment is an important safety feature for this mine.
- (d) Mechanical surveying equipment has been obsolete for a number of years. Such equipment of acceptable quality is not commercially available. Further, it is difficult, if not impossible, to have such equipment serviced or repaired.
- (e) Electronic surveying equipment is, at a minimum, 8 to 10 times more accurate than mechanical equipment.
- (f) Application of the existing standard would result in a diminution of safety to miners.

 Underground mining by its nature, size, and complexity of mine plans requires that accurate and precise measurements be completed in a prompt and efficient manner.

- (a) The petitioner will use the following total stations and theodolites and similar low-voltage battery-operated total stations and theodolites if they have an ingress protection (IP) rating of 66 or greater in or inby the last open crosscut, subject to this petition:
 - Topcon GTS-233 W 7.2 Volts DC
 - Topcon GPT-3003 LW 7.2 Volts DC
 - Topcon GTS 223 7.2 Volts DC
 - Topcon GTS 243 NW 7.2 Volts DC
- (b) The nonpermissible electronic surveying equipment is low-voltage or battery-powered nonpermissible total stations and theodolites, data loggers, and laser distance meters. All nonpermissible electronic total stations and theodolites will have an IP 66 or greater rating.
- (c) The petitioner will maintain a logbook for electronic surveying equipment with the equipment, or in the location where mine record books are kept, or in the location where the surveying record books are kept. The logbook will contain the date of manufacture and/or purchase of each particular piece of electronic surveying equipment. The logbook will be made available to MSHA on request.
- (d) All nonpermissible electronic surveying equipment to be used in or inby the last open crosscut will be examined by the person who operates the equipment prior to taking the equipment underground to ensure the equipment is being maintained in a safe operating condition. The result of these examinations will be recorded in the logbook and will include:
 - (1) Checking the instrument for any physical damage and the integrity of the case;
 - (2) Removing the battery and inspecting for corrosion;
 - (3) Inspecting the contact points to ensure a secure connection to the battery;
- (4) Reinserting the battery and powering up and shutting down to ensure proper connections; and

- (5) Checking the battery compartment cover or battery attachment to ensure that it is securely fastened.
- (e) The equipment will be examined at least weekly by a qualified person, as defined in 30 CFR 75.153. The examination results will be recorded weekly in the equipment logbook and will be maintained for at least 1 year.
- (f) The petitioner will ensure that all nonpermissible electronic surveying equipment is serviced according to the manufacturer's recommendations. Dates of service will be recorded in the equipment's logbook and will include a description of the work performed.
- (g) The nonpermissible electronic surveying equipment used in or inby the last open crosscut will not be put into service until MSHA has initially inspected the equipment and determined that it is in compliance with all the terms and conditions of this petition.
- (h) Nonpermissible electronic surveying equipment will not be used if methane is detected in concentrations at or above 1.0 percent. When 1.0 percent or more methane is detected while such equipment is being used, the equipment will be de-energized immediately and withdrawn outby the last open crosscut. All requirements of 30 CFR 75.323 will be complied with prior to entering in or inby the last open crosscut.
- (i) Prior to setting up and energizing nonpermissible electronic surveying equipment in or inby the last open crosscut, the surveyor(s) will conduct a visual examination of the immediate area for evidence that the area appears to be sufficiently rock-dusted and for the presence of accumulated float coal dust. If the rock-dusting appears insufficient or the presence of accumulated float coal dust is observed, the equipment will not be energized until sufficient rock-dust has been applied and/or the accumulations of float coal dust have been cleaned up. If nonpermissible electronic surveying equipment is to be used in an area not rock-dusted within 40

feet of a working face where a continuous mining machine is used, the area will be rockeddusted prior to energizing the nonpermissible electronic surveying equipment.

- (j) All hand-held methane detectors will be MSHA-approved and maintained in permissible and proper operating condition, as defined in 30 CFR 75.320. All methane detectors will provide visual and audible warnings when methane is detected at or above 1.0 percent.
- (k) Prior to energizing nonpermissible electronic surveying equipment in or inby the last open crosscut, methane tests will be made in accordance with 30 CFR 75.323(a). Nonpermissible electronic surveying equipment will not be used in or inby the open crosscut when production is occurring.
- (l) Prior to surveying, the area will be examined according to 30 CFR 75.360. If the area has not been examined, a supplemental examination according to 30 CFR 75.361 will be performed before any non-certified person enters the area.
- (m) A qualified person, as defined in 30 CFR 75.151, will continuously monitor for methane immediately before and during the use of nonpermissible electronic surveying equipment in or inby the last open crosscut. If there are two people in the surveying crew, both persons will continuously monitor for methane. The other person will either be a qualified person, as defined in 30 CFR 75.151, or be in the process of being trained to be a qualified person but has yet to make such tests for a period of 6 months, as required in 30 CFR 75.150. Upon completion of the 6-month training period, the second person on the surveying crew will become qualified, as defined in 30 CFR 75.151, in order to continue on the surveying crew. If the surveying crew consists of one person, that person will monitor for methane with two separate devices.
- (n) Batteries contained in the nonpermissible electronic surveying equipment will be changed out or charged in fresh air outby the last open crosscut. Replacement batteries will be carried

only in the compartment provided for a spare battery in the nonpermissible electronic surveying equipment carrying case. Before each shift of surveying, all batteries for the nonpermissible electronic surveying equipment will be charged sufficiently so that they are not expected to be replaced on that shift.

- (o) When using nonpermissible electronic surveying equipment in or inby the last open crosscut, the surveyor will confirm by measurement or by inquiry of the person in charge of the section, that the air quantity on the section, on that shift, in or inby the last open crosscut is at least the minimum quantity that is required by the mine's ventilation plan.
- (p) Personnel engaged in the use of nonpermissible electronic surveying equipment will be properly trained to recognize the hazards and limitations associated with the use of such equipment in areas where methane could be present.
- (q) All members of the surveying crew will receive specific training on the terms and conditions of the petition before using nonpermissible electronic surveying equipment in or inby the last open crosscut. A record of the training will be kept with the other training records.
- (r) If the petition is granted, the petitioner will submit within 60 days after the petition is final, proposed revisions for its approved 30 CFR part 48 training plans to the District Manager. These revisions will specify initial and refresher training regarding the terms and conditions of the petition. When training is conducted on the terms and conditions in the petition, an MSHA Certificate of Training (Form 5000-23) will be completed and will indicate that it was surveyor training.
- (s) The petitioner will replace or retire from service any electronic surveying instrument that was acquired prior to December 31, 2004 within 1 year of the petition becoming final. Within 3 years of the date that the petition becomes final, the petitioner will replace or retire from service

any theodolite that was acquired more than 5 years prior to the date that the petition becomes final or any total station or other electronic surveying equipment identified in this petition and acquired more than 10 years prior to the date that the petition becomes final. After 5 years, the petitioner will maintain a cycle of purchasing new electronic surveying equipment whereby theodolites will be no older than 5 years from the date of manufacture and total stations and other electronic surveying equipment will be no older than 10 years from the date of manufacture.

(t) The petitioner will ensure that all surveying contractors hired by the petitioner are using

- (t) The petitioner will ensure that all surveying contractors hired by the petitioner are using nonpermissible electronic surveying equipment in accordance with the terms and conditions of this petition. The conditions of use in the petition will apply to all nonpermissible electronic surveying equipment used in or inby the last open crosscut, regardless of whether the equipment is used by the petitioner or by an independent contractor.
- (u) The petitioner states that it will use nonpermissible electronic surveying equipment when production is occurring, subject to the following conditions:
- On a mechanized mining unit (MMU) where production is occurring, nonpermissible electronic surveying equipment will not be used downwind of the discharge point of any face ventilation controls, such as tubing (including controls such as "baloney skins") or curtains.
- Production will continue while nonpermissible electronic surveying equipment is used, if such equipment is used in a separate split of air from where production is occurring.
- Nonpermissible electronic surveying equipment will not be used in a split of air ventilating an MMU if any ventilation controls will be disrupted during such surveying.

 Disruption of ventilation controls means any change to the mine's ventilation system that causes the ventilation system not to function in accordance with the mine's approved ventilation plan.

- If, while surveying, a surveyor will disrupt ventilation, the surveyor will cease surveying and communicate to the section foreman that ventilation will be disrupted. Production will stop while ventilation is disrupted. Ventilation controls will be reestablished immediately after the disruption is no longer necessary. Production will only resume after all ventilation controls are reestablished and are in compliance with approved ventilation or other plans, and other applicable laws, standards, or regulations.
- Any disruption in ventilation will be recorded in the logbook required by the petition.

 The logbook will include a description of the nature of the disruption, the location of the disruption, the date and time of the disruption and the date and time the surveyor communicated the disruption to the section foreman, the date and time production ceased, the date and time ventilation was reestablished, and the date and time production resumed.
- All surveyors, section foremen, section crew members, and other personnel who will be involved with or affected by surveying operations will receive training in accordance with 30 CFR 48.7 on the requirements of the petition within 60 days of the date the petition becomes final. The training will be completed before any nonpermissible electronic surveying equipment can be used while production is occurring. The petitioner will keep a record of the training and provide the record to MSHA on request.
- The petitioner will provide annual retraining to all personnel who will be involved with or affected by surveying operations in accordance with 30 CFR 48.8. The petitioner will train new miners on the requirements of the petition in accordance with 30 CFR 48.5, and will train experienced miners, as defined in 30 CFR 48.6, on the requirements of the petition in accordance with 30 CFR 48.6. The petitioner will keep a record of the training and provide the record to MSHA on request.

The petitioner asserts that the proposed alternative method will at all times guarantee no less than the same measure of protection afforded by the existing standard.

Docket Number: M-2020-012-C.

Petitioner: Jarisa, Inc., 935 State Hwy 317, Neon, KY 41840.

Mine: E4-1 Mine, MSHA I.D. No. 15-18565, located in Perry County, Kentucky.

points; outby the last open crosscut; return air; permissibility requirements).

Modification Request: The petitioner requests a modification of the existing standard to permit an alternative method of compliance to allow the use of battery-powered nonpermissible surveying equipment including, but not limited to, portable battery-operated mine transits, total station surveying equipment, distance meters, and data loggers, in return airways.

Regulation Affected: 30 CFR 75.507-1(a) (Electric equipment other than power-connection

The petitioner states that:

- (a) To comply with requirements for mine ventilation maps and mine maps in 30 CFR 75.372 and 75.1200, use of the most practical and accurate surveying equipment is necessary.
- (b) The petitioner utilizes the continuous mining method.
- (c) Accurate survey equipment is an important safety feature for this mine.
- (d) Mechanical surveying equipment has been obsolete for a number of years. Such equipment of acceptable quality is not commercially available. Further, it is difficult, if not impossible, to have such equipment serviced or repaired.
- (e) Electronic surveying equipment is, at a minimum, 8 to 10 times more accurate than mechanical equipment.

(f) Application of the existing standard would result in a diminution of safety to miners.

Underground mining by its nature, size, and complexity of mine plans requires that accurate and precise measurements be completed in a prompt and efficient manner.

As an alternative to the existing standard, the petitioner proposes the following:

- (a) The petitioner will use the following total stations and theodolites and similar low-voltage battery-operated total stations and theodolites if they have an ingress protection (IP) rating of 66 or greater in return airways, subject to this petition:
 - Topcon GTS-233 W 7.2 Volts DC
 - Topcon GPT-3003 LW 7.2 Volts DC
 - Topcon GTS 223 7.2 Volts DC
 - Topcon GTS 243 NW 7.2 Volts DC
- (b) The nonpermissible electronic surveying equipment is low-voltage or battery-powered nonpermissible total stations and theodolites, data loggers, and laser distance meters. All nonpermissible electronic total stations and theodolites will have an IP 66 or greater rating.
- (c) The petitioner will maintain a logbook for electronic surveying equipment with the equipment, or in the location where mine record books are kept, or in the location where the surveying record books are kept. The logbook will contain the date of manufacture and/or purchase of each particular piece of electronic surveying equipment. The logbook will be made available to MSHA on request.
- (d) All nonpermissible electronic surveying equipment to be used in return airways will be examined by the person who operates the equipment prior to taking the equipment underground to ensure the equipment is being maintained in a safe operating condition. The result of these examinations will be recorded in the logbook and will include:
 - (1) Checking the instrument for any physical damage and the integrity of the case;
 - (2) Removing the battery and inspecting for corrosion;

- (3) Inspecting the contact points to ensure a secure connection to the battery;
- (4) Reinserting the battery and powering up and shutting down to ensure proper connections; and
- (5) Checking the battery compartment cover or battery attachment to ensure that it is securely fastened.
- (e) The equipment will be examined at least weekly by a qualified person, as defined in 30 CFR 75.153. The examination results will be recorded weekly in the equipment logbook and will be maintained for at least 1 year.
- (f) The petitioner will ensure that all nonpermissible electronic surveying equipment is serviced according to the manufacturer's recommendations. Dates of service will be recorded in the equipment's logbook and will include a description of the work performed.
- (g) The nonpermissible electronic surveying equipment used in return airways will not be put into service until MSHA has initially inspected the equipment and determined that it is in compliance with all the terms and conditions of this petition.
- (h) Nonpermissible electronic surveying equipment will not be used if methane is detected in concentrations at or above 1.0 percent. When 1.0 percent or more methane is detected while such equipment is being used, the equipment will be de-energized immediately and withdrawn out of return airways. All requirements of 30 CFR 75.323 will be complied with prior to entering in return airways.
- (i) Prior to setting up and energizing nonpermissible electronic surveying equipment in return airways, the surveyor(s) will conduct a visual examination of the immediate area for evidence that the area appears to be sufficiently rock-dusted and for the presence of accumulated float coal dust. If the rock-dusting appears insufficient or the presence of accumulated float coal dust is

observed, the equipment will not be energized until sufficient rock-dust has been applied and/or the accumulations of float coal dust have been cleaned up. If nonpermissible electronic surveying equipment is to be used in an area not rock-dusted within 40 feet of a working face where a continuous mining machine is used, the area will be rocked-dusted prior to energizing the nonpermissible electronic surveying equipment.

- (j) All hand-held methane detectors will be MSHA-approved and maintained in permissible and proper operating condition, as defined in 30 CFR 75.320. All methane detectors will provide visual and audible warnings when methane is detected at or above 1.0 percent.
- (k) Prior to energizing nonpermissible electronic surveying equipment in return airways, methane tests will be made in accordance with 30 CFR 75.323(a). Nonpermissible electronic surveying equipment will not be used in return airways when production is occurring.
- (l) Prior to surveying, the area will be examined according to 30 CFR 75.360. If the area has not been examined, a supplemental examination according to 30 CFR 75.361 will be performed before any non-certified person enters the area.
- (m) A qualified person, as defined in 30 CFR 75.151, will continuously monitor for methane immediately before and during the use of nonpermissible electronic surveying equipment in return airways. If there are two people in the surveying crew, both persons will continuously monitor for methane. The other person will either be a qualified person, as defined in 30 CFR 75.151, or be in the process of being trained to be a qualified person but has yet to make such tests for a period of 6 months, as required in 30 CFR 75.150. Upon completion of the 6-month training period, the second person on the surveying crew will become qualified, as defined in 30 CFR 75.151, in order to continue on the surveying crew. If the surveying crew consists of one person, that person will monitor for methane with two separate devices.

- (n) Batteries contained in the nonpermissible electronic surveying equipment will be changed out or charged in fresh air out of return airways. Replacement batteries will be carried only in the compartment provided for a spare battery in the nonpermissible electronic surveying equipment carrying case. Before each shift of surveying, all batteries for the nonpermissible electronic surveying equipment will be charged sufficiently so that they are not expected to be replaced on that shift.
- (o) When using nonpermissible electronic surveying equipment in return airways, the surveyor will confirm by measurement or by inquiry of the person in charge of the section, that the air quantity on the section, on that shift, in return airways is at least the minimum quantity that is required by the mine's ventilation plan.
- (p) Personnel engaged in the use of nonpermissible electronic surveying equipment will be properly trained to recognize the hazards and limitations associated with the use of such equipment in areas where methane could be present.
- (q) All members of the surveying crew will receive specific training on the terms and conditions of the petition before using nonpermissible electronic surveying equipment in return airways. A record of the training will be kept with the other training records.
- (r) If the petition is granted, the petitioner will submit within 60 days after the petition is final, proposed revisions for its approved 30 CFR part 48 training plans to the District Manager. These revisions will specify initial and refresher training regarding the terms and conditions of the petition. When training is conducted on the terms and conditions in the petition, an MSHA Certificate of Training (Form 5000-23) will be completed and will indicate that it was surveyor training.

- (s) The petitioner will replace or retire from service any electronic surveying instrument that was acquired prior to December 31, 2004 within 1 year of the petition becoming final. Within 3 years of the date that the petition becomes final, the petitioner will replace or retire from service any theodolite that was acquired more than 5 years prior to the date that the petition becomes final or any total station or other electronic surveying equipment identified in this petition and acquired more than 10 years prior to the date that the petition becomes final. After 5 years, the petitioner will maintain a cycle of purchasing new electronic surveying equipment whereby theodolites will be no older than 5 years from the date of manufacture and total stations and other electronic surveying equipment will be no older than 10 years from the date of manufacture.
- (t) The petitioner will ensure that all surveying contractors hired by the petitioner are using nonpermissible electronic surveying equipment in accordance with the terms and conditions of this petition. The conditions of use in the petition will apply to all nonpermissible electronic surveying equipment used in return airways, regardless of whether the equipment is used by the petitioner or by an independent contractor.
- (u) The petitioner states that it will use nonpermissible electronic surveying equipment when production is occurring, subject to the following conditions:
- On a mechanized mining unit (MMU) where production is occurring, nonpermissible electronic surveying equipment will not be used downwind of the discharge point of any face ventilation controls, such as tubing (including controls such as "baloney skins") or curtains.
- Production will continue while nonpermissible electronic surveying equipment is used, if such equipment is used in a separate split of air from where production is occurring.
- Nonpermissible electronic surveying equipment will not be used in a split of air ventilating an MMU if any ventilation controls will be disrupted during such surveying.

Disruption of ventilation controls means any change to the mine's ventilation system that causes the ventilation system not to function in accordance with the mine's approved ventilation plan.

- If, while surveying, a surveyor will disrupt ventilation, the surveyor will cease surveying and communicate to the section foreman that ventilation will be disrupted. Production will stop while ventilation is disrupted. Ventilation controls will be reestablished immediately after the disruption is no longer necessary. Production will only resume after all ventilation controls are reestablished and are in compliance with approved ventilation or other plans, and other applicable laws, standards, or regulations.
- Any disruption in ventilation will be recorded in the logbook required by the petition.

 The logbook will include a description of the nature of the disruption, the location of the disruption, the date and time of the disruption and the date and time the surveyor communicated the disruption to the section foreman, the date and time production ceased, the date and time ventilation was reestablished, and the date and time production resumed.
- All surveyors, section foremen, section crew members, and other personnel who will be involved with or affected by surveying operations will receive training in accordance with 30 CFR 48.7 on the requirements of the petition within 60 days of the date the petition becomes final. The training will be completed before any nonpermissible electronic surveying equipment can be used while production is occurring. The petitioner will keep a record of the training and provide the record to MSHA on request.
- The petitioner will provide annual retraining to all personnel who will be involved with or affected by surveying operations in accordance with 30 CFR 48.8. The petitioner will train new miners on the requirements of the petition in accordance with 30 CFR 48.5, and will train experienced miners, as defined in 30 CFR 48.6, on the requirements of the petition in accordance

with 30 CFR 48.6. The petitioner will keep a record of the training and provide the record to MSHA on request.

The petitioner asserts that the proposed alternative method will at all times guarantee no less than the same measure of protection afforded by the existing standard.

Docket Number: M-2019-013-C.

Petitioner: Jarisa, Inc., 935 State Hwy 317, Neon, KY 41840.

Mine: E4-1 Mine, MSHA I.D. No. 15-18565, located in Perry County, Kentucky.

<u>Regulation Affected</u>: 30 CFR 75.1002(a) (Installation of electric equipment and conductors; permissibility).

Modification Request: The petitioner requests a modification of the existing standard to permit an alternative method of compliance to allow the use of battery-powered nonpermissible surveying equipment including, but not limited to, portable battery-operated mine transits, total station surveying equipment, distance meters, and data loggers, within 150 feet of pillar workings and longwall faces.

The petitioner states that:

- (a) To comply with requirements for mine ventilation maps and mine maps in 30 CFR 75.372 and 75.1200, use of the most practical and accurate surveying equipment is necessary.
- (b) The petitioner utilizes the continuous mining method.
- (c) Accurate survey equipment is an important safety feature for this mine.
- (d) Mechanical surveying equipment has been obsolete for a number of years. Such equipment of acceptable quality is not commercially available. Further, it is difficult, if not impossible, to have such equipment serviced or repaired.

- (e) Electronic surveying equipment is, at a minimum, 8 to 10 times more accurate than mechanical equipment.
- (f) Application of the existing standard would result in a diminution of safety to miners.

 Underground mining by its nature, size, and complexity of mine plans requires that accurate and precise measurements be completed in a prompt and efficient manner.

As an alternative to the existing standard, the petitioner proposes the following:

- (a) The petitioner will use the following total stations and theodolites and similar low-voltage battery-operated total stations and theodolites if they have an ingress protection (IP) rating of 66 or greater within 150 feet of pillar workings or longwall faces, subject to this petition:
 - Topcon GTS-233 W 7.2 Volts DC
 - Topcon GPT-3003 LW 7.2 Volts DC
 - Topcon GTS 223 7.2 Volts DC
 - Topcon GTS 243 NW 7.2 Volts DC
- (b) The nonpermissible electronic surveying equipment is low-voltage or battery-powered nonpermissible total stations and theodolites, data loggers, and laser distance meters. All nonpermissible electronic total stations and theodolites will have an IP 66 or greater rating.
- (c) The petitioner will maintain a logbook for electronic surveying equipment with the equipment, or in the location where mine record books are kept, or in the location where the surveying record books are kept. The logbook will contain the date of manufacture and/or purchase of each particular piece of electronic surveying equipment. The logbook will be made available to MSHA on request.
- (d) All nonpermissible electronic surveying equipment to be used within 150 feet of pillar workings or longwall faces will be examined by the person who operates the equipment prior to taking the equipment underground to ensure the equipment is being maintained in a safe

operating condition. The result of these examinations will be recorded in the logbook and will include:

- (1) Checking the instrument for any physical damage and the integrity of the case;
- (2) Removing the battery and inspecting for corrosion;
- (3) Inspecting the contact points to ensure a secure connection to the battery;
- (4) Reinserting the battery and powering up and shutting down to ensure proper connections; and
- (5) Checking the battery compartment cover or battery attachment to ensure that it is securely fastened.
- (e) The equipment will be examined at least weekly by a qualified person, as defined in 30 CFR 75.153. The examination results will be recorded weekly in the equipment logbook and will be maintained for at least 1 year.
- (f) The petitioner will ensure that all nonpermissible electronic surveying equipment is serviced according to the manufacturer's recommendations. Dates of service will be recorded in the equipment's logbook and will include a description of the work performed.
- (g) The nonpermissible electronic surveying equipment used within 150 feet of pillar workings or longwall faces will not be put into service until MSHA has initially inspected the equipment and determined that it is in compliance with all the terms and conditions of this petition.
- (h) Nonpermissible electronic surveying equipment will not be used if methane is detected in concentrations at or above 1.0 percent. When 1.0 percent or more methane is detected while such equipment is being used, the equipment will be de-energized immediately and withdrawn further than 150 feet from pillar workings and longwall faces. All requirements of 30 CFR

- 75.323 will be complied with prior to entering within 150 feet of pillar workings or longwall faces.
- (i) Prior to setting up and energizing nonpermissible electronic surveying equipment within 150 feet of pillar workings or longwall faces, the surveyor(s) will conduct a visual examination of the immediate area for evidence that the area appears to be sufficiently rock-dusted and for the presence of accumulated float coal dust. If the rock-dusting appears insufficient or the presence of accumulated float coal dust is observed, the equipment will not be energized until sufficient rock-dust has been applied and/or the accumulations of float coal dust have been cleaned up. If nonpermissible electronic surveying equipment is to be used in an area not rock-dusted within 40 feet of a working face where a continuous mining machine is used, the area will be rocked-dusted prior to energizing the nonpermissible electronic surveying equipment.
- (j) All hand-held methane detectors will be MSHA-approved and maintained in permissible and proper operating condition, as defined in 30 CFR 75.320. All methane detectors will provide visual and audible warnings when methane is detected at or above 1.0 percent.
- (k) Prior to energizing nonpermissible electronic surveying equipment within 150 feet of pillar workings and longwall faces, methane tests will be made in accordance with 30 CFR 75.323(a). Nonpermissible electronic surveying equipment will not be used within 150 feet of pillar workings or longwall faces when production is occurring.
- (l) Prior to surveying, the area will be examined according to 30 CFR 75.360. If the area has not been examined, a supplemental examination according to 30 CFR 75.361 will be performed before any non-certified person enters the area.
- (m) A qualified person, as defined in 30 CFR 75.151, will continuously monitor for methane immediately before and during the use of nonpermissible electronic surveying equipment within

150 feet of pillar workings and longwall faces. If there are two people in the surveying crew, both persons will continuously monitor for methane. The other person will either be a qualified person, as defined in 30 CFR 75.151, or be in the process of being trained to be a qualified person but has yet to make such tests for a period of 6 months, as required in 30 CFR 75.150. Upon completion of the 6-month training period, the second person on the surveying crew will become qualified, as defined in 30 CFR 75.151, in order to continue on the surveying crew. If the surveying crew consists of one person, that person will monitor for methane with two separate devices.

- (n) Batteries contained in the nonpermissible electronic surveying equipment will be changed out or charged in fresh air more than 150 feet from pillar workings or longwall faces.

 Replacement batteries will be carried only in the compartment provided for a spare battery in the nonpermissible electronic surveying equipment carrying case. Before each shift of surveying, all batteries for the nonpermissible electronic surveying equipment will be charged sufficiently so that they are not expected to be replaced on that shift.
- (o) When using nonpermissible electronic surveying equipment within 150 feet of pillar workings or longwall faces, the surveyor will confirm by measurement or by inquiry of the person in charge of the section, that the air quantity on the section, on that shift, within 150 feet of pillar workings or longwall faces is at least the minimum quantity that is required by the mine's ventilation plan.
- (p) Personnel engaged in the use of nonpermissible electronic surveying equipment will be properly trained to recognize the hazards and limitations associated with the use of such equipment in areas where methane could be present.

- (q) All members of the surveying crew will receive specific training on the terms and conditions of the petition before using nonpermissible electronic surveying equipment within 150 feet of pillar workings or longwall faces. A record of the training will be kept with the other training records.
- (r) If the petition is granted, the petitioner will submit within 60 days after the petition is final, proposed revisions for its approved 30 CFR part 48 training plans to the District Manager. These revisions will specify initial and refresher training regarding the terms and conditions of the petition. When training is conducted on the terms and conditions in the petition, an MSHA Certificate of Training (Form 5000-23) will be completed and will indicate that it was surveyor training.
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- (t) The petitioner will ensure that all surveying contractors hired by the petitioner are using nonpermissible electronic surveying equipment in accordance with the terms and conditions of this petition. The conditions of use in the petition will apply to all nonpermissible electronic

surveying equipment used within 150 feet of pillar workings or longwall faces, regardless of whether the equipment is used by the petitioner or by an independent contractor.

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- On a mechanized mining unit (MMU) where production is occurring, nonpermissible electronic surveying equipment will not be used downwind of the discharge point of any face ventilation controls, such as tubing (including controls such as "baloney skins") or curtains.
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 Disruption of ventilation controls means any change to the mine's ventilation system that causes the ventilation system not to function in accordance with the mine's approved ventilation plan.
- If, while surveying, a surveyor will disrupt ventilation, the surveyor will cease surveying and communicate to the section foreman that ventilation will be disrupted. Production will stop while ventilation is disrupted. Ventilation controls will be reestablished immediately after the disruption is no longer necessary. Production will only resume after all ventilation controls are reestablished and are in compliance with approved ventilation or other plans, and other applicable laws, standards, or regulations.
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 The logbook will include a description of the nature of the disruption, the location of the disruption, the date and time of the disruption and the date and time the surveyor communicated

the disruption to the section foreman, the date and time production ceased, the date and time

ventilation was reestablished, and the date and time production resumed.

- All surveyors, section foremen, section crew members, and other personnel who will be

involved with or affected by surveying operations will receive training in accordance with 30

CFR 48.7 on the requirements of the petition within 60 days of the date the petition becomes

final. The training will be completed before any nonpermissible electronic surveying equipment

can be used while production is occurring. The petitioner will keep a record of the training and

provide the record to MSHA on request.

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or affected by surveying operations in accordance with 30 CFR 48.8. The petitioner will train

new miners on the requirements of the petition in accordance with 30 CFR 48.5, and will train

experienced miners, as defined in 30 CFR 48.6, on the requirements of the petition in accordance

with 30 CFR 48.6. The petitioner will keep a record of the training and provide the record to

MSHA on request.

The petitioner asserts that the proposed alternative method will at all times guarantee no

less than the same measure of protection afforded by the existing standard.

Roslyn Fontaine,

Deputy Director,

Office of Standards, Regulations, and Variances.

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